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09/857,490	10/01/2001	Federick H. Rumpf	97116CIP-(36	5371

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EXAMINER

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/857,490
Filing Date: October 01, 2001
Appellant(s): RUMPF ET AL.

MAILED
JUN 05 2007
GROUP 1700

Luke Kilyk
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 1/26/07 appealing from the Office action mailed 3/30/06.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct, except that the rejection of claim 18 is withdrawn.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct, except that the rejection of claim 18 is withdrawn.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

4636375	Rothbuhr et al.	1-1987
5240472	Sircar	8-1993
4690695	Doshi	9-1987
5527518	Lynum	6-1996

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 2 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rothbuhr et al. 4636375.

Rothbuhr teaches in column 8 treating carbon black off-gas to remove water and carbon, then recycling it. While not explicitly teaching heating before recycling, this is suggested in column 9 and thus obvious to increase the carbon yield, and/or efficiency of combustion. The fuel rich mode is suggested as an option in col. 1 and 2. Note that col. 9 line 60-63 shows two examples. The 880 degree example shows less combustion and thus meets the claims, as less product is formed. The teaching of mixing chamber in ex. 1 indicates claim 17 is met.

Claims 3 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rothbuhr as applied to claims 2 and 15-17 above, and further taken with Sircar and Doshi respectively.

Rothbuhr teaches water removal but it does not specify PSA. However, Sircar teaches in col. 5 line 55 using PSA to dewater a gas. Thus using it in the process of Rothbuhr an obvious expedient to perform the water removal. Concerning claim 8, Rothbuhr does not identify the source of oxygen, however Doshi teaches in column 11 line 5 that it can separate oxygen by

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PSA. Thus, using oxygen from any source, such as PSA, is an obvious expedient to create the oxygen used by Rothbuhr.

Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rothbuhr as applied to claims 2 and 15-17 above, and further in view of Lynam 5527518.

Rothbuhr, supra, does not explicitly teach reheating the recycled gas using plasma heating. However Lynam in column 5 teaches this technique to make carbon black. Plasma preheating the gases of Rothbuhr is thus an obvious expedient to assure efficient combustion and restore heat lost during the water-removal steps.

(10) Response to Argument

Rothbuhr teaches a shortage of oxygen and thus suggests, at the very least, a fuel rich process. Rothbuhr clearly teaches the problems of having too much oxygen; in order to avoid the problem of having oxygen react with the feedstock, an oxygen deficiency in the flame is an obvious and seemingly necessary condition. While the examples of the reference appear fuel-lean, column 1 contains an extended discussion of how the amounts of fuel, feedstock and air can be altered, depending on what carbon black properties are desired. See particularly lines 52-56. The arguments to unexpected results are vague, and not claimed or demonstrated; the yield is said to be lower but the claims do not require any particular yield. Further, Rothbuhr fig. 2 indicates that to get a low DBP value, one must use a large volume of residual gas, and must accept the consequences of 'lower yield' to attain this product if desired. To draw an analogy, mining a river for gold is a 'low yield' process as compared to extracting mud from a river, however it is a worthwhile endeavor.

The argument that Rothbuhr col. 1 lines 45-52 is a discussion of the fuel-lean option is not persuasive since the placement of the comma can be read as two different meaning (that the air that is in deficiency) and in any event lines 53-56 are clearly fuel rich. The caution of col. 1 lines 58-62 simply means that the fuel cannot be too rich; there is a limit as to how rich it can be.

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Concerning the figures of 27 parts air and 1.9 parts fuel, (Brief pg. 15) it is noted that the recycle gas may push the system to fuel rich, depending upon the exact composition and amount thereof. Given what the reference teaches, this is at very least an obvious expedient.

The experiment 4/V121 in col. 9 indicates that the recycle gas was not combusted. Thus, there was no excess oxygen. Thus it was already fuel rich.

Concerning claim 2, col. 1 implies that the fuel need not be a gas and col. 4 lines 28-30 recite gasoline as fuel. Thus, when a non-gas fuel is used, the recycle gas is the only gas.

Concerning claim 16, the reference recycles off-gas. This implies means a recycle pipe and thus the process always recycles the off-gas, and thus the recycling is 'repeated'.

Concerning the combination of Sircar and Doshi, these references teach how to remove the components that Rothbuhr removes. Thus they may be combined.

Concerning Lynum, it is a carbon black preheating reference. Thus it is clearly combinable. A motivation has been given to heat the recycle gas, because it is going into the combustion chamber, as is the preheated gas of Lynum.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,



Stuart Hendrickson
examiner Art Unit 1754

Conferees:



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